

## THE MANY USES OF TUNGSTEN

Extracts From Pamphlet Issued by Geological Survey.

### PRODUCTION IS NOT VERY HEAVY

#### Mineral Is One of Deep Creek District's Numerous Resources.

One of the most widely known of the rarer metals in tungsten, found to some extent in Utah, especially in the Deep Creek district. The production of this metal in the United States, however, is not large, as a little of it goes a long way for some of its most important uses. As by far the largest part of the tungsten produced is used in making tool steel, the demand for tungsten decreased greatly during the recent depression in the steel industry. In 1908 the domestic production of tungsten ore, reduced to an equivalent of one carrying 60 per cent of tungstic trioxide (W<sub>2</sub>O<sub>3</sub>), the ordinary commercial basis in the United States, was 471 short tons, valued at \$19,965, against 1,640 tons, valued at \$89,648, in 1907. The statistics at present available from foreign countries show a similar decline. These figures are taken from a report by F. L. Hess, of the United States Geological Survey, published in an advance chapter from "Mineral Resources of the United States, calendar year 1908." Mr. Hess gives also details of the industry by states, notes on the occurrence and uses of tungsten, and a partial bibliography.

#### Occurrence of Tungsten.

Tungsten is of wide occurrence, but the individual deposits can hardly be said to be large. As a rule they are "pockets"—that is, they occur in lenticular masses or small shoots, and those at the surface are quickly and easily mined, but it may then take all the profits derived from the first ore body to locate another one.

#### Uses of Tungsten.

The most important use of tungsten is as an alloy for tool steel, to which it imparts the property of holding temper at a much higher temperature than high-carbon steels. When the tools are made of tungsten steel the chips may be speeded up until the chips leaving the tool are so hot that they turn blue. It is said that about five times as much work can be done by a lathe built for such speeds and work and fitted with tungsten-steel tools as can be done by the same lathe with carbon-steel tools. From 15 to 20 per cent of tungsten is ordinarily used in lathe tools.

#### Use in Lamps.

As the melting point of tungsten is very high—about 3000 degrees centigrade—the metal is valuable for use as a filament in incandescent electric lamps, and such lamps are rapidly coming into common use. The whiteness of the light given by the tungsten filament makes it much superior to that of carbon and the efficiency of the tungsten lamp is more than twice as great as that of the carbon lamp. Thousands of filaments can be made from a pound of tungsten, and tungsten salts are used in dyeing, and for other purposes.

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## AMERICAN CANYON HAS BRIGHT FUTURE

Numerous Properties Are Under Development and Giving Results.

That the American Canyon mining district is destined to run with the many other good camps in Humboldt county in the very near future is evidenced by the many good reports that are coming from that section. Hardly a week passes but that some good things from the famous old district are brought to town of some new discovery, says the Lovelock Review.

Polge, who has just returned from a short visit to the district, where he had gone to inspect his interests, reports very substantial strikes on the Iron Hill group, owned by Louie Bartelle. On this property, Mr. Polge states, an eighty-foot crosstun tunnel has been driven. Fifty feet of this distance was run through ledge matter. In driving the crosstun three fine ore shoots have been disclosed, all of which show gold in paying quantities. These pay shoots vary in width of from three to five feet and are located from six to ten feet apart.

#### Free Gold and Milling.

In some instances free gold is found, and taken altogether, the ore carries extraordinarily high mill values. The crosstun is being driven toward the hanging wall side of the immense vein, and as the work progresses the formation becomes better, the values more uniform, and the owner feels confident that as soon as the tunnel is completed he will be able to report something in a sensational line.

#### On the Silver King, which is owned by Mr. Polge, a four-foot vein of silver-gold ore has been opened up.

The values throughout the ledge average close to \$50 in the two metals, with silver predominating. Mr. Polge brought in some large specimens taken from the bottom of the shaft on his property which are very rich, easily assaying \$300 per ton. As work progresses and depth is attained the values show an increase.

#### The entire American Canyon district presents a very active appearance and considerable work is being done on the various properties.

#### Laurel Property Looks Encouraging

Superintendent C. T. Smith of the Laurel Gold Mining, Milling and Leasing company, has left at this office a lot of samples of ore from the property in the Winnemucca mining district, says the Humboldt Star.

The ore is of the ship-carrying and carries about equal values in gold and silver. Mr. Smith states that some time this month a carload shipment of ore will be made to the smelter. A significant feature is that this ore is being extracted from a property that is situated only about eight miles from town at what is known as the Barrett Springs section of the Winnemucca district. The property from which the ore is being taken out is being rapidly developed into a mine of some prominence.

#### Tunneling on Veins.

Further up the hill there is a tunnel in 80 feet and the ledge there shows the same character of ore that is being taken from the shaft, with the exception that the values are greater in gold. Still higher up a tunnel has been started on what is proving to be another distinct vein and the ore exposed shows good values in gold and silver. At least 200 feet down the hill below the shaft the vein has been opened on the surface preparatory to driving a tunnel at that point.

Arrangements are being made for installing a whim, when the shaft will be sent down to greater depth. Superintendent Smith showed a large number of certificates of assay of ore from the property and the values range from \$20 to \$100 in the ton. In some instances the rock carries four ounces in gold to the ton besides the silver values.

#### THE OPENING OF THIS PROPERTY VIRTUALLY ON THE OUTSKIRTS OF TOWN ONLY GOES TO SHOW WHAT IS TO BE FOUND IN THE WINNEMUCCA MINING DISTRICT WHEN DILIGENT SEARCH IS MADE.

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## CORTEZ DISTRICT UNDER DEVELOPMENT

Reported That Eastern Capitalists Will Start Work in Spring.

SPOKANE, Wash., Dec. 5.—"We have four and a half feet of gold ore, assaying about \$25 a ton, on the Red Top in the Verde group in the Cortez district, Nevada," said Fred Birney, original locator of the Verde group, who is in California, on his return to Spokane, "and that property will be developed by Chicago capitalists, including the Nevada Treasury claims, owned by Patrick Clark of Spokane, who bought his ground from Magistrate Johnson, the only colored woman in the district."

The Clark property is being worked with thirty men and is in excellent shape. They have thirty-five feet of ore which will average better than \$20 a ton. The Verde group, which covers four miles from Clark's property, is rich in gold and silver. The mine is owned by Salt Lake people. Their ore averages 25 per cent copper, \$15 in gold and sixty ounces of silver. They are now putting up a concentrator.

#### The Old Cortez.

"Grieber has a lease on the tailings of the old Cortez mine, which has produced \$15,000,000, and is working them with a cyanide mill. He paid for his mill and running expenses within five months. The old Cortez mill would not treat ore running less than \$20 a ton, so that much of the ore was lost. The Cortez company is now putting up a hypsulphide mill. They have five feet of ore, assaying \$50 a ton."

#### The Bullion Hill property, which adjoins the Nevada Treasury, has shipped several thousand tons of high-grade ore.

A New York company is interested in the property and will operate it on a big scale next season. The Last Chance mine, owned by Frank Schultz, has the deepest workings in the camp. The main shaft is down 900 feet. They have a large amount of ore sacked on the camp ready for shipment. This ore will run from \$40 to \$50 a ton in gold, silver and lead. The Regulus mine, owned by J. T. May of Cortez, Colo., has a perpendicular shaft for a depth of 400 feet, and has a fine ledge of \$60 ore in the bottom of the shaft.

#### Gold Circle Mines Opening Up Strong

Rex Mill Ready for Installation of Its Delayed Machinery.

The Rex Mines company are having a very hard time getting in their machinery on account of the bad roads, according to advices from Midas. There are three car loads at Nelson station on the Western Pacific. The construction of the mill is all completed and waiting for the machinery to be put in place. The developments in the mine are all in values, and ore enough blocked out for the capacity of the mill for two years.

#### The Gold Circle Crown Mining company expect by the first of the coming month to put on more men, and drive a tunnel to the intersection of the No. 2 and No. 3 veins.

The No. 2 vein is a very rich one, and the No. 3 vein is also very rich. The company expect to put on more men, and drive a tunnel to the intersection of the No. 2 and No. 3 veins.

#### Salt Laker Busy.

The Elko Prince properties, under the supervision of L. L. Savage, are proving to be good. They are driving in on the ledge in the old workings and have two feet of ore that samples \$15 per ton. They expect great things when they strike the old Rex shaft and greater values.

#### The Glasgow and Western are preparing to sink a double compartment shaft on the Eastern Star, and have ordered a hoist and pumps, for they have water to contend with. They will sink two hundred feet and drift to their ore.

#### PIT OPERATIONS AT THE NEVADA CON.

A bewildering array of tracks surround, intersect, bisect and crosscut the steam shovel pit of the Nevada Consolidated, so intricate are the workings of the Guggenheim mine. Another railroad is being constructed on the east side to meet the topmost ledge which is being stripped for the ore. The grading is also being done for the adit which will enter the pit from the east side and approach it in a diagonal shape for the purpose of lowering the grade into the pit, which is now 4 per cent.

#### This will mean the cutting off entirely of the wagon road between the railroad depot and the pit entrance, and the only way left from east to west, or west to east, will be to make a detour over the big excavation. There is a probability, however, of a trestle being thrown across the railroad cut to the east to connect the adit and the pit workings. Yesterday they were using sleds for the transportation of freight around the grounds—White Pine News, Elko.

#### MORE DANVILLE PROOF.

Jacob Schram, 432 South street, Danville, Ill., writes: "For over eighteen months I was a sufferer from kidney and bladder trouble. During the whole time was treated by several doctors and tried several different kidney pills. Seven weeks ago I commenced taking Foley's Kidney Pills, and am feeling better every day and will be glad to tell any one interested just what Foley's Kidney Pills did for me." Schramm-Johnson Co.

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## ROCKET PROPERTY EQUIPPED FOR WORK

Promising Prospect at Cactus Springs Will Be Further Developed.

A large consignment of lumber and provisions was sent out yesterday for the Rocket Mining company, which is operating some promising property at Cactus Springs, says the Goldfield Tribune. The work is in charge of Jack McEachen, one of the best known prospectors and miners in the desert country. The company is backed by Chicago, Duluth and Louisville people, and extensive development is planned. W. C. Peay, one of the principals in the enterprise, is here from Chicago, and will go out to Cactus Springs with Mr. McEachen this morning.

#### Shaft Equipped.

A commodious house has recently been erected on the property, and a whim installed on the shaft. Mr. Peay has such confidence in the proposition that he contemplates bringing his family to the desert, and taking up his residence at the mine for several months.

The shaft is about eighty feet deep, and crosstuns have been driven into a blowout alongside of which the shaft is located, and very encouraging values have been obtained. It is now planned to sink to 200 feet, and then crosstun into the hill to a large vein that outcrops on the surface, and shows values from \$10 to \$20 per ton. This is one of the most promising prospects in the Cactus Springs district, and has all the earmarks of making a mine with development.

#### Tribune Want Ads.

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